

Product datasheet for **SC324301**

ALDH6A1 (NM_005589) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ALDH6A1 (NM_005589) Human Untagged Clone
Tag:	Tag Free
Symbol:	ALDH6A1
Synonyms:	MMSADHA; MMSDH
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC (PS100020)
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >OriGene sequence for NM_005589.2
 CCAATGAGGAAGCCTGGCAGGATGGAGGGCGAGGCCTGGCAGCTGTAGTCTTCTGGGCA
 GTAGAGGCGCGGGGTGCGGAGCTAGGGCGGCCGAGAGCCATGGCGGCGCTATTGGCGGCG
 GCGGCAGTGCGAGCCCGATCCTGCAGGTTTCTTCCAAGTGAAATCCAGTCCCACCTGG
 TATTCAGCATCTTCTTCTTCTTTCAGTGCCAACTGTAAAGCTTTCATTGGTGGGAAA
 TTCGTTGAATCCAAAAGTGACAAATGGATCGATATCCACAACCCAGCCACCAATGAGGTC
 ATTTGGTCCGGTCCCTCAGGCCACCAAGGCAGAAATGGATGCAGCCATTGCTTCTGCAAA
 CGTGCTTTTCTGCATGGGCAGACACTTCAAGTATTAAGCCGCCAGCAGGCTTGTCCGC
 TATCAACAACCTTATTAAGAAAACCTTGAAGAAAATTGCCAAGTTAATCACATTGGAACAA
 GGAAGACCTAGCTGATGCTGAAGGAGATGTATTTGAGGCCTTCAGGTGGTTGAGCAT
 GCCTGTAGTGTGACATCCCTCATGATGGGAGAGACCATGCCATCCATCACCAGACATG
 GACCTTTATCTACCGTCTGCCTCTGGGAGTGTGTGCAGGCATTGCTCCATTCAATTTT
 CCTGCCATGATCCCCCTTGGATGTTTCCCATGGCCATGGTGTGTGAAATACCTTCTTA
 ATGAAACCATCTGAGCGAGTCCCTGGAGCAACTATGCTTCTTGCTAAGTTGCTCCAGGAT
 TCTGGTGGCCCTGATGGAACATTAACATCATCCATGGACAGCATGAAGCTGTAATTTT
 ATTTGCGATCATCCGGACATCAAAGCAATCAGCTTTGTGGGATCCAACAAGGCAGGAGAG
 TATATCTTCGAGAGAGGATCAAGACATGGCAAGAGGGTTCAAGCCAATATGGGAGCCAAG
 AACCATGGGGTAGTCATGCCAGATGCCAATAAGGAAAATACCCTGAACCAGCTGGTTGGG
 GCAGCATTTGGAGCTGCTGGTCAGCGCTGCATGGCTCTTCAACAGCAGTCTTGTGGGA
 GAAGCCAAGAAGTGGCTGCCAGAGCTGGTGGAGCATGCCAAAACCTGAGAGTCAATGCA
 GGAGATCAGCCTGGAGCTGATCTTGGCCCTCTGATCACTCCCCAGGCCAAAGAGCGAGTC
 TGAATCTGATTGATAGTGAACAAAGGAGGGAGCTTCCATCCTTCTTGTGGACGAAAA
 ATTAAGTGAAAGGCTATGAAAATGGCAACTTTGTTGGACCAACCATCATCTCGAATGTC
 AAGCCAAATATGACCTGTTACAAAAGAGGAGATTTTGGTCCAGTTCTTGTGGTTCTGGAG
 ACAGAAACATTGGATGAAGCCATCCAGATTGTAATAACAACCCATATGGAAATGGAAC
 GCCATCTTACCACCAATGGAGCCACTGCTCGGAAATATGCCACTTGGTGGATGTTGGA
 CAGGTGGGAGTGAATGTCCCATTCAGTGCCTTTGCCAATGTTCTCATTACCGGCTCT
 CGATCCTCCTCAGGGGAGACCAATTTCTATGGCAAACAGGGCATCCAATTCTACACT
 CAGTTAAAGACCATTACTTCTCAGTGGAAAGAAGAAGATGCTACTTTTCTCACCTGCT
 GTTGTGCATGCCTACCATGGGCCGTTAGAAACAAGTTTGTGTTAAGACTGACTCCATCTGA
 GTAATCTCCCTTATTTTGGACCAGCTTCAATTTGTCAGCTTTGCTCAGATCAGATCGATG
 GGATTGGAATACATTGTAATAAAATCTTCTCAGGACTATTAACCCCTGCAAAGTTTCT
 ATAGGGAACCTAGTGTAAACAATGAAACCAGATTTCTCACTTGTCTTCTCATACTTCTA
 TTTTGGAGTAACTGTTGTAACATGAAATGCTTATCTGAAAGTAGTGCTTAAACCTGATT
 TCTAAAAATTAAA
 AAA
 AAAAA

Restriction Sites: Please inquire

ACCN: NM_005589

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_005589.2](#), [NP_005580.1](#)

RefSeq Size: 2183 bp

RefSeq ORF: 1608 bp

Locus ID: 4329

UniProt ID: [Q02252](#)

Cytogenetics: 14q24.3

Domains: aldedh

Protein Families: Druggable Genome, Transmembrane

Protein Pathways: Inositol phosphate metabolism, Metabolic pathways, Propanoate metabolism, Valine, leucine and isoleucine degradation

Gene Summary:

This gene encodes a member of the aldehyde dehydrogenase protein family. The encoded protein is a mitochondrial methylmalonate semialdehyde dehydrogenase that plays a role in the valine and pyrimidine catabolic pathways. This protein catalyzes the irreversible oxidative decarboxylation of malonate and methylmalonate semialdehydes to acetyl- and propionyl-CoA. Methylmalonate semialdehyde dehydrogenase deficiency is characterized by elevated beta-alanine, 3-hydroxypropionic acid, and both isomers of 3-amino and 3-hydroxyisobutyric acids in urine organic acids. Alternate splicing results in multiple transcript variants. [provided by RefSeq, Jun 2013]

Transcript Variant: This variant (1) encodes the longest isoform (1). Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.